REMARKS

Claims 1-4, 12 and 13 are pending in the present application. Claims 1-4, 12 and 13 stand rejected by the present office action. Claims 1-4, 12 and 13 stand rejected under 35 USC 102(b) as being anticipated by Kohma (US 4,660,401). Claims 1-3, 12 and 13 stand rejected under 35 USC 102(b) as being anticipated by Madsen (US 3,167,985). Claims 1-4, 12 and 13 stand rejected under 35 USC 103(a) as being unpatentable over Kohama (US 4,660,401) in view of the Hambi article. Claims 1-4, 12 and 13 stand rejected under 35 USC 103(a) as being unpatentable over Madsen (US 3,167,985) in view of the Hambi article. Claims 1-4, 12 and 13 stand rejected under 35 USC 103(a) as being unpatentable over Kohama (US 4,660,401) in view of Bennet (US 6,370,931). Claims 1-3, 12 and 13 stand rejected under 35 USC 103(a) as being unpatentable over Madsen (US 3,167,985) in view of Bennet (US 6,370,931). Claims 1-4, 12 and 13 stand rejected under 35 USC 103(a) as being unpatentable over Kohama (US 4,660,401) in view of Li et al (US 5,820,999). Claims 1-3, 12 and 13 were rejected under 35 USC 103(a) as being unpatentable over Madsen (US 3,167,985) in view of Li et al (US 5,820,999).

Claims 1-4, 12 and 13 rejected under 35 USC 102(b)

Claims 1-4, 12 and 13 stand rejected under 35 USC 102(b) as being anticipated by Kohma (US 4,660,401). The claims stand rejected under the same principle used below for the 103(a) rejection based on Kohma in view of Hambi. The present rejection, however, utilizes Hambi as the basis for arguing that the use of a radius as a cutting edge is inherent as opposed to the below referenced rejection wherein Hambi is utilized in an obvious combination form rejection. The basis for such a rejection is that the Kohama reference teaches the limitations of the present invention with the exception of a radius on the cutting edge. The Hambi reference is then utilized by the Examiner to support an argument that every cutting edge shy of an exacting perfectly sharp cutting edge will inherently have some form of radius.

The Applicant respectfully traverses this rejection and seeks reconsideration in light of the proposed amendments after final. These amendments are for clarification

purposes only and the claims have been argued throughout prosecution by both Applicant (and Examiner) up to this point as though the limitations have been present. The addition of a radius to the cutting edge would be known to one skilled upon reading the disclosure as more than simply a dull blade. The specification even provides a sample radius for this purpose, most notably something in far discrepancy from the 0.01mm radius the Hambi reference discusses. It should be noted that the Hambi reference fails to render the present invention either anticipated or obvious (as discussed below) and this assertion is supported by the very quote from Hambi put forth in the office action. Hambi teaches that a "large radius" such as 0.2mm causes burrs to form but that a cutting edge radius of 0.01mm (essentially no radius) makes better cuts. Thus essentially, Hambi teaches what the Applicant has asserted throughout prosecution, namely that the art taught away from utilizing a cutting edge radius. The present amendment simply formalizes the position the Applicant has asserted through prosecution wherein the cutting edge has a radius (meaning something significantly more than a dull blade (which may be interpreted as minimal rounding, i.e. 0.01mm). Again, this is not new matter and the limitation has been treated by both the Examiner and Applicant throughout prosecution as if it had been specifically called out. Therefore, the clear and unambiguous limitation of the scope of the claims in these response provides a clear limitation on the claim (Omega Engineering Inc. v. Raytek Corp. 334 F.3d 1314, 67 U.S.P.Q.2d 1321, Fed. Cir.(Conn.), Jul 07, 2003).

In addition, the Applicant notes that the Kohama reference fails to teach the trimming apparatus or method claimed by the present invention. The Kohama reference teaches a punch press which is not the structural equivalent of the blank trimming apparatus and process of the present invention. Punch operations press cutting edges into a blank sheet within the perimeter of the blank and produce a part from the center. Trimming operations, however, trim the edges off a blank. The scrap is not trimmed away from the main body, rather the main body is punched away from the scrap. Although this may seem on its face a less than significant distinction, this is not the case. By punching a main piece out of the center of a blank, a contiguous blank portion is generated which

is inherently less likely to bend and thereby generate slivers and burrs. Trimming the edges, as claimed by the present invention, on the other hand relies on slicing of segments of the outer perimeter (as is well known in the art) and therefore does not carry with it the natural contiguous nature of punching operations (as taught by Koharma) and therefore is far more susceptible to problems such as burrs and slivers. The Applicant submits, this further prevents the Koharma reference from anticipating the present invention.

Claims 1-4, 12 and 13 rejected under 35 USC 102(b)

Claims 1-3, 12 and 13 stand rejected under 35 USC 102(b) as being anticipated by Madsen (US 3,167,985). The basis for this rejection is essentially the same as for the Koharma reference. The Applicant respectfully traverses this rejection as well. The Applicant notes that Madsen fails to teach the leading edge having a radius as claimed by the present invention. At best Madsen illustrates a chamber on the trailing edge of the blade. In addition, as mentioned above, Madsen as well is a punch operation rather than an edge trimming operation as claimed by the present invention. Furthermore, and most notably, the supports in the Madsen reference would fail to support the scrap such that it would move perpendicular to the upper surface as claimed by the present invention. In Madsen, the rubber supports are offset from the cutting blade such that a cantilever bending moment is induced in the scrap. Thus Madsen fails to insure perpendicular movement as both the scrap and the support move in an angular fashion relative to the upper surface. Therefore, Madsen fails to anticipate under four grounds 1) it operates as a punch not a blank trimmer 2) it fails to teach a radius on the cutting edge 3) it fails to support the scrap such that it either moves perpendicular to the upper surface of the blank 4) the Hambi reference utilized to support inherent radius in cutting edges is flawed as it actually supports quite the opposite laying the desire for the non-existent radius (0.01mm).

Claims 1-4, 12 and 13 stand reje ted under 35 USC 103(a)

Claims 1-4, 12 and 13 stand rejected under 35 USC 103(a) as being unpatentable over Kohama (US 4,660,401) in view of the Hambi article. Claims 1-4, 12 and 13 stand rejected under 35 USC 103(a) as being unpatentable over Madsen (US 3,167,985) in view of the Hambi article. The Applicant traverses these rejections based on identical arguments as posed above. Namely, that 1) the underlying references fail to teach the limitations of the present invention and that 2) the Hambi reference teaches away from the use of a radius on the leading edge by teaching that virtually perfectly sharp (<0.01mm) blades should be utilized. The Applicant, therefore, requests reconsideration of these two rejections.

Claims 1-4, 12 and 13 rejected under 35 USC 103(a)

Claims 1-4, 12 and 13 stand rejected under 35 USC 103(a) as being unpatentable over Kohama (US 4,660,401) in view of Bennet (US 6,370,931). Furthermore, the rejection of claims 1-4, 12 and 13 under 35 USC 103(a) as being unpatentable over Madsen (US 3,167,985) in view of Bennet (US 6,370,931) may be handled simultaneously. While the Office action states that Bennett teaches a rounding cutting edge, it should be distinctly pointed out that the present invention claims a radius on the leading edge of a moving blade. Bennett teaches no such radius on the trim punch (5) or blank engaging shredder (2), the two moving portions of the disclosed punch apparatus. Additionally, as previously argued regarding the underlying references, Bennett teaches a punch apparatus and not a trimming apparatus as claimed by the present invention. The Applicant respectfully calls the Examiner's attention to Figures 5,6,and 7 of the Bennett reference. These figures clearly illustrate the fundamental differences between the two technologies. The blank (6) in Bennett extends over the entire perimeter of the trim punch (5) (see col 7, lines 59-64). This provides a different mechanical reaction consistent with punch operations as compared to the mechanical reactions generated by the present invention and trimming apparatus. Trimming operations shear off edges of metal sheets while punching operations "punch" through the center. The two operations involve different mechanics and different structural responses and therefore different apparatuses. The rounding of the Bennett

application is concerned with an even smooth surface for gears and does not discuss or contemplate burrs and splinters which tend to plague trimming operations. Furthermore, the Bennett references fails either alone or in combination with Kohama or Madsen to teach utilizing a radius on the leading edge of the moving blade in combination with parallel movement support of the blank in order to eliminate slivers as taught and claimed by the present invention. Therefore, the Applicant respectfully requests reconsideration.

Claims rejected under 35 USC 103(a) -

Claims 1-4, 12 and 13 stand rejected under 35 USC 103(a) as being unpatentable over Kohama (US 4,660,401) in view of Li et al (US 5,820,999). Claims 1-3, 12 and 13 were rejected under 35 USC 103(a) as being unpatentable over Madsen (US 3,167,985) in view of Li et al (US 5,820,999). The office action asserts that Kohama (or Madsen) teaches all of the cited limitations except the cutting edge of the moving blade rounded to a radius cutting perpendicular to the blank. The office action asserts that Li shows a movable blade to have a radius; and that it would have been obvious for one skilled in the art to have modified Kohama by making the cutting edge rounded in order to eliminate slivers. The Applicant respectfully traverses these rejections, and requests reconsideration of the amended claims in light of the foregoing arguments and amendments.

First and foremost, the Applicant reinstates his position in regards to the inappropriate nature of the cited underlying art (Kohama and Madsen) as teaching punching apparatuses rather than trimming and therefore not involving the same physical reactions nor developing the same concerns that trimming operations create and the present invention addresses. The Applicant asserts the aforementioned arguments regarding the allowability of the present invention over the cited art and incorporates by reference all arguments presented during prosecution. The following three paragraphs state the Applicant's position regarding the combination of Kohama (or Madsen) with Li. The Examiner is advised that the position stated below is identical to that put forth in the preview office action/appeal. These arguments should be considered in combination with those provided above and not discarded as old.

The Applicant respectfully calls the Examiner's attention to column 2, lines 45-62 of the Li et al reference. The Applicant calls attention to the fact that Li reference states "the use of a zero degree cutting angle has been found to produce an unacceptably high amount of slivers. [for use on aluminum]". The Li reference, therefore utilizes a radiused cutting edge in combination with an angled cutting arrangement (see Figure 2, the cutting blade approaches the blank from an angle). It should be noted that the Li reference is directed towards the same problems as the present invention, namely the elimination of slivers during the trimming of aluminum parts. It is equally significant to note that the Li reference in Table 1 found that a radiused blade when used at a zero degree cutting angle (perpendicular to the blank) is still quoted as producing significant slivers when used with small clearances (5%). The Li reference addressed this by angling the cutting angle.

The Office action asserts that the support illustrated in Kohama (or Madsen) would be obvious to combine with Li to arrive at the present invention. The Applicant respectfully disagrees and traverses this assertion. The Applicant notes that the arguments put forth in the response to the first office action against using Kravets in combination with Li are equally applicable to Kohama (or Madsen). The Applicant notes that Kohama does not support the scrap as asserted by the office action. Kohama, rather, supports a continuously fed blank 129. Therefore, the support of the blank 129 in Kohama is dictated by the fact that additional, non-damaged, parts are intended to be cut out of the blank 129. The Kohama reference does not even address the use of a support 27 to reduce sliver generation. Therefore, it is improper to read a motivation to combine into either of the two references. Most significantly, however, the Applicant notes that Kohama (in addition to the previously utilized Kravets reference) was published more than 10 (ten) years prior to the filing of the Li et al reference. Li was directed to the same issue the present invention. Li itself recognized that a "zero degree cut results in the least amount of normal stress" (col 3, lines 32-34). And yet, Li found it necessary to introduce an increased cutting angle in order to reduce slivers even utilizing a cutting edge with a radius (thereby teaching away from any combination). If Kohama would be obvious to combine with the subject matter to arrive at th present invention, why would not Li utilize it as does the present invention to

accomplish minimized slivers, with minimum clearance, and using a zero degree cutting angle. As the Li reference was directed to the same problem, and utilized a rounded cutting radius, and was filed more that a decade after the publication of Kohama, the Applicant submits that the combination is non-obvious and the present claims should be allowed.

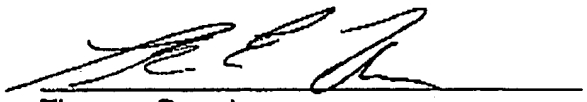
The Office action asserts that the support illustrated in Madsen would be obvious to combine with Li to arrive at the present invention. The Applicant respectfully disagrees and traverses this assertion. The Applicant notes that the arguments put forth in the response to the first office action against using Kravets in combination with Li, as well as those above, are equally applicable to Madsen. The Madsen reference does not even address the use of a support to reduce sliver generation or sliver generation at all. Therefore, it is improper to read a motivation to combine into either of the two references. Most significantly, however, the Applicant notes that Madsen (in by far an even stronger showing that Kravets or Kohama reference) was published more than 30 (thirty) years prior to the filing of the Li et al reference. Li was directed to the same issue the present invention. Li itself recognized that a "zero degree cut results in the least amount of normal stress" (col 3, lines 32-34). And yet, Li found it necessary to introduce an increased cutting angle in order to reduce slivers even utilizing a cutting edge with a radius (thereby teaching away from any combination). If Madsen would be obvious to combine with the subject matter to arrive at the present invention, why would not Li utilize it as does the present invention to accomplish minimized slivers, with minimum clearance, and using a zero degree cutting angle. As the Li reference was directed to the same problem, and utilized a rounded cutting radius, and was filed more that a three decades after the publication of Madsen, the Applicant submits that the combination is non-obvious and the present claims should be allowed.

CONCLUSION

The Applicant would like to thank the Examiner for his assistance. In light of the above remarks, Applicant submits that all objections and rejections are now overcome. The Applicant has added no new material by this Amendment. The Application is now in condition for allowance and expeditious notice thereof is earnestly solicited.

Should the Examiner have any questions or comments that would place the application in better condition for allowance, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,



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Dated: May 3, 2004